

Applicants : Kenneth (NMI) Schofield and Kenneth L. Schierbeek
For : LIGHT-RESPONSIVE VEHICLE CONTROL SUCH AS AN
ELECTRO-OPTIC REARVIEW MIRROR SYSTEM THAT IS
ADAPTIVE TO VEHICLE CONFIGURATION
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The listing of the claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Please cancel claims 1-60.

Please add new claims 61- 97 as follows:

1. – 60. (cancelled)

61. (new) A vehicular electro-optic rearview mirror system, comprising:

 a vehicle including a passenger compartment;

 an interior rearview mirror assembly in said passenger compartment;

said interior rearview mirror assembly having an interior electro-optic mirror reflective element;

 at least one exterior rearview mirror assembly outside of said passenger compartment;

said exterior rearview mirror assembly having an exterior electro-optic mirror reflective element;

 an ambient detecting light sensor in said passenger compartment;

 a glare detecting light sensor in said passenger compartment;

 a control receiving an input from said ambient and glare detecting light sensors, said control generating an interior mirror reflectance level signal that establishes a reflectance level of said interior mirror reflective element, said control further generating an exterior mirror reflectance level signal that establishes a reflectance level of said exterior mirror reflective element; and

 said control including a sensitivity selection for establishing a sensitivity level as a function of light sensed by at least one of said ambient and glare detecting light sensors, wherein at least one of said interior mirror reflectance level signals and said exterior mirror reflectance level signal being at least a function of the sensitivity level established by said sensitivity selection.

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62. (new) The mirror system in claim 61 wherein the reflectance level of said exterior mirror reflective element is generally more dimmed for higher levels of said sensitivity level.

63. (new) The mirror system in claim 61 wherein said vehicle includes vehicle headlights operable in a plurality of activation states and wherein said control further producing a headlight activation signal that establishes an activation state of said headlights.

64. (new) The mirror system in claim 63 wherein said headlight activation signal is a function of light sensed by at least one of said ambient and glare detecting light sensors and the sensitivity level determined by said sensitivity selection.

65. (new) The mirror system in claim 61 wherein said sensitivity level is established as a function of a sampling of light sensed by said at least one of said ambient and glare detecting light sensors.

66. (new) The mirror system in claim 65 wherein said sensitivity level is established in response to long duration sampling of said at least one of said ambient and glare detecting light sensors.

67. (new) The mirror system in claim 66 wherein said long duration sampling is on an order of at least one hour of vehicle operation.

68. (new) The mirror system in claim 66 wherein said long duration sampling is on an order of at least ten hours of vehicle operation.

69. (new) The mirror system in claim 66 wherein said long duration sampling occurs when light sensed by said at least one of said ambient and glare detecting light sensors is greater than a particular light level indicative of daylight operating conditions.

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70. (new) The mirror system in claim 69 wherein said particular light level is on an order of 1,000 lux.

71. (new) The mirror system in claim 66 wherein said long duration sampling occurs when the vehicle is initially operated.

72. (new) The mirror system in claim 61 wherein said interior electro-optic mirror reflective element comprises an electrochromic mirror reflective element.

73. (new) The mirror system in claim 61 wherein said exterior electro-optic mirror reflective element comprises an electrochromic mirror reflective element.

74. (new) A vehicular electro-optic rearview mirror system, comprising:

- a vehicle including a passenger compartment having at least a forward-viewing forward window, a side-viewing window having a side window light transmission value and a rearward-viewing rear window having a rear window light transmission value;

- said interior rearview mirror assembly having an interior electro-optic mirror reflective element;

- said interior reflective element intercepting passed light that passes through said rearward-viewing rear window, said light passing through said rearward-viewing rear window being attenuated as a function of said rear window light transmission value, said interior reflective element reflecting at least a portion of said passed light directly to the driver;

- at least one exterior rearview mirror assembly outside of said passenger compartment;

- said exterior rearview mirror assembly having an exterior electro-optic mirror reflective element;

- said exterior reflective element reflecting at least a portion of light incident thereon to the driver via transmission through said side-viewing window;

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at least one light sensor in said passenger compartment and directed toward said rearward-viewing rear window to receive said light passing through said rearward-viewing rear window;

a control receiving an input from said at least one light sensor and generating an interior mirror reflectance level signal that establishes a reflectance level of said interior mirror reflective element, said control further generating an exterior mirror reflectance level signal that establishes a reflectance level of said exterior mirror reflective element;

said control including a sensitivity selection for establishing a sensitivity level as a function of light sensed by said at least one light sensor, wherein at least one of said interior mirror reflectance level signals and said exterior mirror reflectance level signal being at least a function of the sensitivity level established by said sensitivity selection.

75. (new) The mirror system in claim 74 wherein the reflectance level of said exterior mirror reflective element is generally more dimmed for higher levels of said sensitivity level.

76. (new) The mirror system in claim 74 wherein said vehicle includes vehicle headlights operable in a plurality of activation states and wherein said control further producing a headlight activation signal that establishes an activation state of said headlights.

77. (new) The mirror system in claim 76 wherein said headlight activation signal is a function of light sensed by said at least one light sensor and the sensitivity level determined by said sensitivity selection.

78. (new) The mirror system in claim 74 wherein said sensitivity level is established as a function of a sampling of light sensed by said at least one light sensor.

79. (new) The mirror system in claim 78 wherein said sensitivity level is established in response to long duration sampling of said at least one of said forward and rearward light sensors.

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80. (new) The mirror system in claim 79 wherein said long duration sampling is on an order of at least one hour of vehicle operation.

81. (new) The mirror system in claim 79 wherein said long duration sampling is on an order of at least ten hours of vehicle operation.

82. (new) The mirror system in claim 79 wherein said long duration sampling occurs when light sensed by said at least one light sensor is greater than a particular light level indicative of daylight operating conditions.

83. (new) The mirror system in claim 82 wherein said particular light level is on an order of 1,000 lux.

84. (new) The mirror system in claim 79 wherein said long duration sampling occurs when the vehicle is initially operated.

85. (new) The mirror system in claim 74 wherein said interior electro-optic mirror reflective element comprises an electrochromic mirror reflective element.

86. (new) The mirror system in claim 74 wherein said exterior electro-optic mirror reflective element comprises an electrochromic mirror reflective element.

87. (new) An adaptive vehicle automatic rearview mirror system, comprising:

a vehicle including a passenger compartment having at least a forward-viewing forward window, a side-viewing window having a side window light transmission value and a rearward-viewing window having a rear window light transmission value, an interior rearview mirror assembly and at least one exterior rearview mirror assembly;

said interior rearview mirror assembly including an interior electro-optic mirror reflective element in said passenger compartment;

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said at least one exterior rearview mirror assembly including an exterior electro-optic mirror reflective element outside of said passenger compartment;

at least two light sensors within the passenger compartment, at least one of said at least two light sensors facing generally rearwardly of the vehicle to receive light passing through the rear window of the vehicle; and

a control receiving an input from said at least two light sensors and generating an interior mirror reflectance signal establishing a reflectance level of said interior electro-optic mirror reflective element, said control further generating an exterior mirror reflectance signal establishing a reflectance level of said exterior electro-optic mirror reflective element;

said control including a sensitivity selection for establishing a sensitivity level as a function of a sampling of light sensed by said at least two light sensors, wherein at least one of said interior mirror reflectance level signal and said exterior mirror reflectance level signal being at least a function of the sensitivity level established by said sensitivity selection; and

wherein said sensitivity selection establishes said sensitivity level in response to long duration sampling of said at least two light sensors.

88. (new) The mirror system in claim 87 wherein the reflectance level of said exterior mirror reflective element is generally more dimmed for higher levels of said sensitivity level.

89. (new) The mirror system in claim 87 wherein said vehicle includes headlights operable in a plurality of activation states and wherein said control establishes an activation state of said headlights.

90. (new) The mirror system in claim 89 wherein said headlight activation signal is a function of light sensed by said at least two light sensors and the sensitivity level determined by said sensitivity selection.

91. (new) The mirror system in claim 87 wherein said long duration sampling is on an order of at least one hour of vehicle operation.

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92. (new) The mirror system in claim 87 wherein said long duration sampling is on an order of at least ten hours of vehicle operation.

93. (new) The mirror system in claim 87 wherein said long duration sampling occurs when light sensed by said at least one of said forward and rearward light sensors is greater than a particular light level indicative of daylight operating conditions.

94. (new) The mirror system in claim 93 wherein said particular light level is on an order of 1,000 lux.

95. (new) The mirror system in claim 87 wherein said long duration sampling occurs when the vehicle is initially operated.

96. (new) The mirror system in claim 87 wherein said interior electro-optic mirror reflective element comprises an electrochromic mirror reflective element.

97. (new) The mirror system in claim 87 wherein said exterior electro-optic mirror reflective element comprises an electrochromic mirror reflective element.